National Parks Explorer 3D User Guide

Version 4.3 for Windows

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Document Version 1.0

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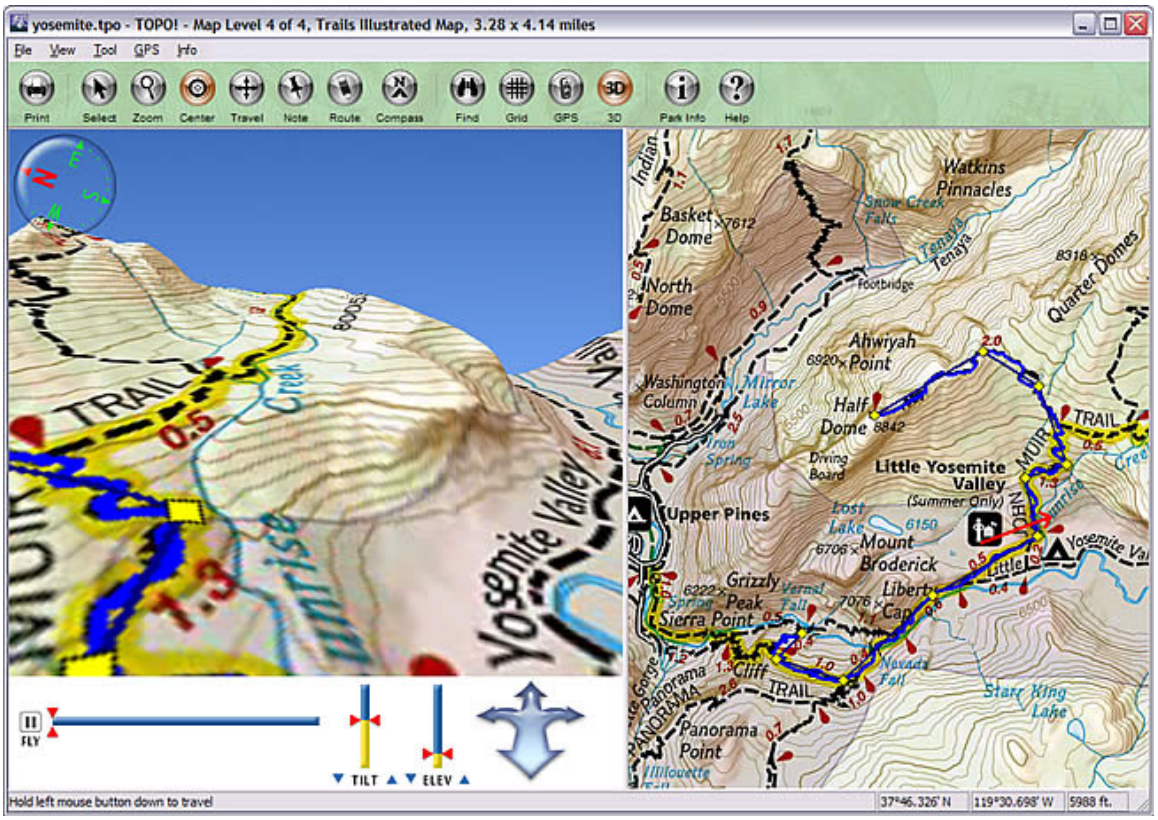
Welcome to National Parks Explorer 3D

Thank you for purchasing a TOPO! Interactive Map product. These products feature high quality digital maps, powered by state of the art map browser software. This user guide is intended to familiarize you with the map browser software. National Parks Explorer 3D software provides everything you need to navigate, explore, and print customized topographic maps. National Parks Explorer 3D makes it easy to measure distance and direction, build elevation profiles, determine coordinates, and print customized maps.



Note

We strongly recommend that all users read For People Who Don't Read Manuals on page 12. GPS users should at least browse Customizing the Maps with Grids on page 39, and Using National Parks Explorer 3D with a GPS Receiver on page 42. To get help with National Parks Explorer 3D see Accessing Information and Getting Help on page 14.

Installing and Running National Parks Explorer 3D

Installation for Windows 95, 98, 2000, ME, NT or XP

Use the National Parks Explorer installer (**setup.exe**) to install TOPO!. It places the TOPO! application and other TOPO! files on to your hard drive.

To install:

1. Insert the **Installer Disc 1** into your CD-ROM drive. Choose **Run**… from the Windows **Start** menu.

2. Enter **D:\Setup.exe** (if your CD-ROM is not drive D, substitute the correct drive letter in place of "D").

3. Click **OK**.

4. Follow the instructions on your screen. The Install Wizard places TOPO! and other necessary files on your hard drive.

To run National Parks Explorer 3D on Windows:

Click **Start > Programs > TOPO! > National Parks Explorer 3D**. Choose a park and click **GO** in the welcome screen.

Installation for Mac OS 10.2 or Higher

1. Insert the **Installer Disc 1**.

2. Double-click on the **National Parks Explorer 3D** CD-ROM icon when it appears on your desktop.

3. Double-click on the **Install National Parks Explorer 3D** icon.

4. Follow the on-screen instructions to complete the installation.

To run National Parks Explorer 3D on a Mac:

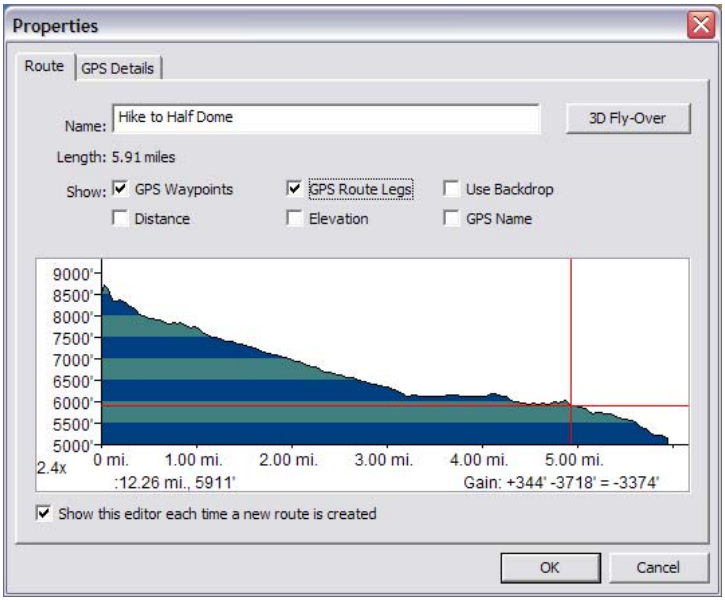
Open the **TOPO!** folder in the **Applications** folder and double-click on the **National Parks Explorer 3D** application.

For People Who Don't Read Manuals

By reading this short chapter, you will learn some of National Parks Explorer 3D's key features that are easy to miss. GPS users should also browse Using National Parks Explorer 3D with a GPS Receiver on page 42.

Pop-up Editors

Many of National Parks Explorer 3D's most important features, like elevation profiling, can only be accessed from pop-up editors. All objects that you add to maps (routes, direction lines, and notes) contain pop-up editors that provide options. These editors can be accessed by placing your cursor over an object and clicking the right mouse button down. Don't miss them.



The Route pop-up editor

Using the Status Bar

The status bar appears along the bottom of the National Parks Explorer 3D window and provides real-time help and information. The status bar is an excellent way to

learn to use all of National Parks Explorer 3D's features. Check it frequently for tips, help with tools, route mileages and information about custom objects.

Status bar

Quick Guide to Printing

Most of the maps in National Parks Explorer 3D are much larger than a printed page. The **Print Tool** allows you to easily define a page-sized area of map for printing or exporting maps to a handheld.

To print a map from National Parks Explorer 3D, do the following:

1. Choose **Print Map** from the **File** menu or click the Print button . The Print Preview dialog box appears.
2. In the top right corner, choose a map magnification (e.g. **Reduce 75%**).
3. Click the **Print** button.

For more information about printing maps, see Printing and Exporting Maps.

Accessing Information and Getting Help

Accessing Information

National Parks Explorer 3D provides extensive information about the maps and parks contained in the program.

To access information about the maps and parks, click the Parks button on the toolbar or choose **View PDF Park Guide** from the **Info** menu. A PDF file opens in Adobe Reader, displaying the table of contents for this park guide.

Status Bar Help

Please see Using the Status Bar on page 12.

On-Screen Help

In addition to this Users Guide, National Parks Explorer 3D provides on-screen help for reference while you are using National Parks Explorer 3D. From a list of topics, you can access the information contained in this User's Guide.

To use the on-screen help:

1. Choose **User Guide** from the **Info** menu or click the Help button . National Parks Explorer 3D displays an index of topics in Adobe Reader.

2. Click the topic you want to view.

Technical Support and www.nationalgeographic.com/topo

Visit the TOPO! home page for information about upgrades, new regions, and other related products:

http://www.nationalgeographic.com/topo

If you encounter system errors or are having problems using National Parks Explorer 3D that are not discussed in this document or on the National Parks Explorer 3D web site, you can contact National Geographic for technical assistance by email at topo@ngs.org or by telephone at 800-962-1643. We are eager to help.

Managing Your Maps and Saving Your Work

National Parks Explorer 3D allows you to save any information you add to the maps. The information is saved as a mapXchange .tpo file.

Opening and Saving .tpo Documents

A mapXchange (.tpo) document is where National Parks Explorer 3D stores any custom information you have added to the maps. Other TOPO! products can also open and view .tpo documents.

Creating and saving new mapXchange (.tpo) documents is easy. They can be very useful for organizing and sharing information. For example, you could store all your favorite mountain biking trails in a document named “mountainbike.tpo” and all your favorite hiking trails in a document named “hike.tpo.” If you wanted to give a friend your favorite mountain biking trails you could copy “mountainbike.tpo” to a USB drive or CD-R, or e-mail it. If they owned National Parks Explorer 3D or the same TOPO! region of maps, they could open the “mountainbike.tpo” document and view, edit or print the maps with your custom trails.

To open a mapXchange (.tpo) document:

1. From the **File** menu, choose **Open Map..**.
2. The File Open dialog box appears and displays a list .tpo files that you have on your computer.
3. Choose a file and click **OK**.

Tip

National Parks Explorer 3D lists the last four .tpo documents that you opened by name at the bottom of the File menu. *From the bottom of the File menu choose the document you want to open.*

To create a new region (.tpo) document:

1. From the **File** menu, choose **Save Map As...** The Save As dialog box appears.
2. Beside **File Name**, enter a new name for the region document.
3. Click **Save**.

Tip

To delete all the custom data you have added to a region of maps and start with a blank slate, choose **Delete Contents...** from the File menu.

Merging .tpo Documents

You can merge all custom routes, symbols, text labels, direction lines from other .tpo files into the .tpo file you are currently viewing. This can be useful if you have stored custom information in different files but wish to view all of it on the same map.

To merge another region (.tpo) document into the current one:

1. From the File menu, choose **Merge .tpo...** The Open File dialog box appears displaying a list of .tpo files.

2. Choose a file and click **OK**.

Note

The .tpo file you choose to merge must either be from the same map region you are currently viewing or from a map region with overlapping coverage. For example, you can merge a Yosemite .tpo file into another .tpo file for the Yosemite CD-ROM or into a .tpo file for the TOPO! California state product.

Deleting Custom Objects from a .tpo file

You can categorically delete all custom routes, direction lines and/or notes from a mapXchange .tpo file by type of object. This can be useful if you wish to simplify a .tpo file or isolate certain types of custom objects. For example, you might want to share a custom map of a hike with another National Parks Explorer 3D user but first delete all the symbols in the .tpo file so as not to give away your favorite fishing spots.

To delete custom objects from a region (.tpo) document:

1. Choose **Delete Contents**... from the File menu. The Confirm Deletion dialog box appears showing what types of custom objects you may delete from the region .tpo file.

2. Check the objects you want to delete.

3. Click **OK**.

Navigating and Searching the Park Maps

You can navigate National Parks Explorer 3D's maps in many ways. You can zoom in or out to see different levels of map detail, scroll seamlessly across map boundaries, and jump instantly to any location for which you know the name or coordinate.

Tip

To see a list of all objects on your map, under the **View** menu, click **Note and Route List**. A list of elevation profiles, routes, and notes appears at the bottom of the window.

Choosing a Park to View

When you start National Parks Explorer 3D, a dialog box appears that allows you to choose the park you want to view. To do this, do one of two things:

- Click the right or left arrow buttons until the park you want appears. Click **Go**.
- Or, on the map, click the pushpin for the park you wish to view. Click **Go**.

Zooming

Use the Zoom Tool to change the level of detail and the scale of the map you are viewing. Map scale is the relationship of a distance on the map and the corresponding distance on the earth. Generally, a larger scale shows more detail than a smaller scale. Zoom in with the **Zoom Tool** to view an area of map in greater detail. Zoom out to see a larger area of map with less detail.

To use the **Zoom Tool**:

1. Choose **Zoom** from the **Tool** menu or click the Zoom button .
2. Position the magnifying cursor where you want to zoom in.
3. Click the mouse to zoom in one level.
4. Press the shift key on your keyboard and left click to zoom out one level.

Tip

*When you are using the **Zoom Tool**, a + sy*mbol in the center of your cursor indicates that it is possible to zoom in. A - symbol in the center of the cursor indicates that it is possible to zoom out. No symbol in the center of your cursor indicates maximum zoom.

Magnifying the Map

This feature allows you to magnify or reduce the map currently being viewed. It can be accessed while using any tool. You can magnify the current map to better view a certain area and draw routes with greater precision. You can also reduce the current map to get an overview of the area and view more of your custom work on screen.

Tip

The Magnify Map feature changes the scale of the current map, but not the level of detail. It is useful for magnifying or reducing certain map areas where you are adding custom information. To change the level of detail, use the standard **Zoom Tool** (see page 18).

To magnify the map:

1. Right click on the map to access the Pop-up Zoom menu.
2. Choose **Magnify Map**.
3. Select one of the three Reduce levels (25%, 33%, 50%) to get an overview of the current map OR…
4. Select one of the three Magnify levels (200%, 300%, 400%) to enlarge the current map.
5. To return to the standard scale for the current Map Level in National Parks Explorer 3D, choose **Select "Normal 100%**.

Note

When you switch Map Levels, the Magnify Map feature always returns to its normal setting at 100% magnification.

Traveling

The Travel Tool allows you to move the map in any direction and travel from map to map without interruption. It is automatically selected when your cursor is near the edge of the map. To scroll the map with the Traveling Tool:

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1. Do one of the following:
   - From the **Tool** menu, choose **Traveling**.
   - In the toolbar, click the Travel Tool .
   - Simply position the cursor near the edge of the map when using another tool.
2. Position the arrow cursor in the direction you want to move.
3. Hold the left mouse button down to begin traveling.
4. Release the mouse button to stop traveling.

Tips

The Traveling Tool is automatically selected when your cursor is near the edge of the map. To control the traveling speed, move the cursor toward the edge of the map to speed up or closer to the center to slow down. You can also adjust the traveling speed (**View** > **Preference and Settings** > **Tools** > **Traveling**).

Centering

The Centering Tool will bring any location to the center of your screen. To use the Centering Tool:

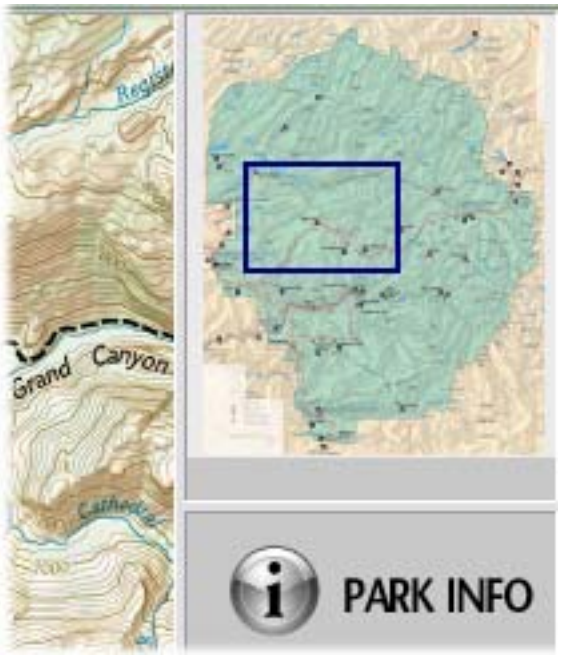
1. Choose **Centering** from the **Tool** menu or click the Centering button .
2. Position the cursor on the map.
3. Click to center the cursor's location.

Overview Maps

Zooming in on a small, detailed portion of a large map can be disorienting. To help you stay oriented, National Parks Explorer 3D provides two overview maps on the right side of the screen. A dark blue rectangle on the overview map indicates the area of map you are viewing. Notice that as you travel the rectangle's position is updated on the overview maps.

To navigate using the Overview Maps:

1. Place your cursor over the Overview Maps on the right side of the screen. If the Overview Maps view does not appear, in the **View** menu, click **Overview Maps**.



Overview Maps

2. A light blue rectangle appears in place of your cursor. The dark blue rectangle represents the area currently on display. Position the light blue rectangle over the area of map you wish to view.

3. Left click to jump to the light blue rectangle's location.

Tip

To close or re-open the overview maps view, from the View menu, click **Overview Maps**.

Searching for Named Locations

National Parks Explorer 3D contains a comprehensive database of place names and natural features that allows you to easily search the maps for a specific location. All of the information contained in the database, or **Gazetteer,** is from the named locations on the maps in this software. The Gazetteer lists locations alphabetically or by feature type.

To search for a named location:

1. From the View menu, click **Find (Gazetteer)**.

2. Beside **Name or text to search for**:, enter the name of the location you are looking for.

3. Choose a map level to go to (see below).

4. Click **Find Now**. National Parks Explorer 3D will search for matches and display these locations in the list below.

5. Click on an entry in the list to preview its location on a small overview map.

6. To jump to the selected location, click **Go**. The location you selected will appear at the center of your screen at the intersection of the red cross hairs.

Searching for Locations by Coordinates (Great for GPS Users)

You can find a given latitude and longitude or UTM location on the map. To search for a coordinate:

1. From the **View** menu, choose **Coordinate Locator** or left click the coordinate display in the lower right corner of the status bar. The Coordinate Locator dialog box appears.

2. Enter the latitude and longitude or UTM values of the position you want to find.

3. Choose the map level that you want to view the position on.

4. Click **Go** to jump to that position on the map. The position you entered appears at the center of your screen at the intersection of the red cross hairs.

Tips

To enter a UTM coordinate, you must set the proper coordinate display (View menu **> Preferences and Settings > Units > Coordinates**).

You can also measure direction and distance between a location on the map and a coordinate value entered into the Coordinate Locator dialog box. For example, you could place an anchor point on a bridge and enter the coordinates of a summit, and the **Coordinate Locator** will report the direction and distance between the two locations.

To determine the direction and distance to a distant landmark's location:

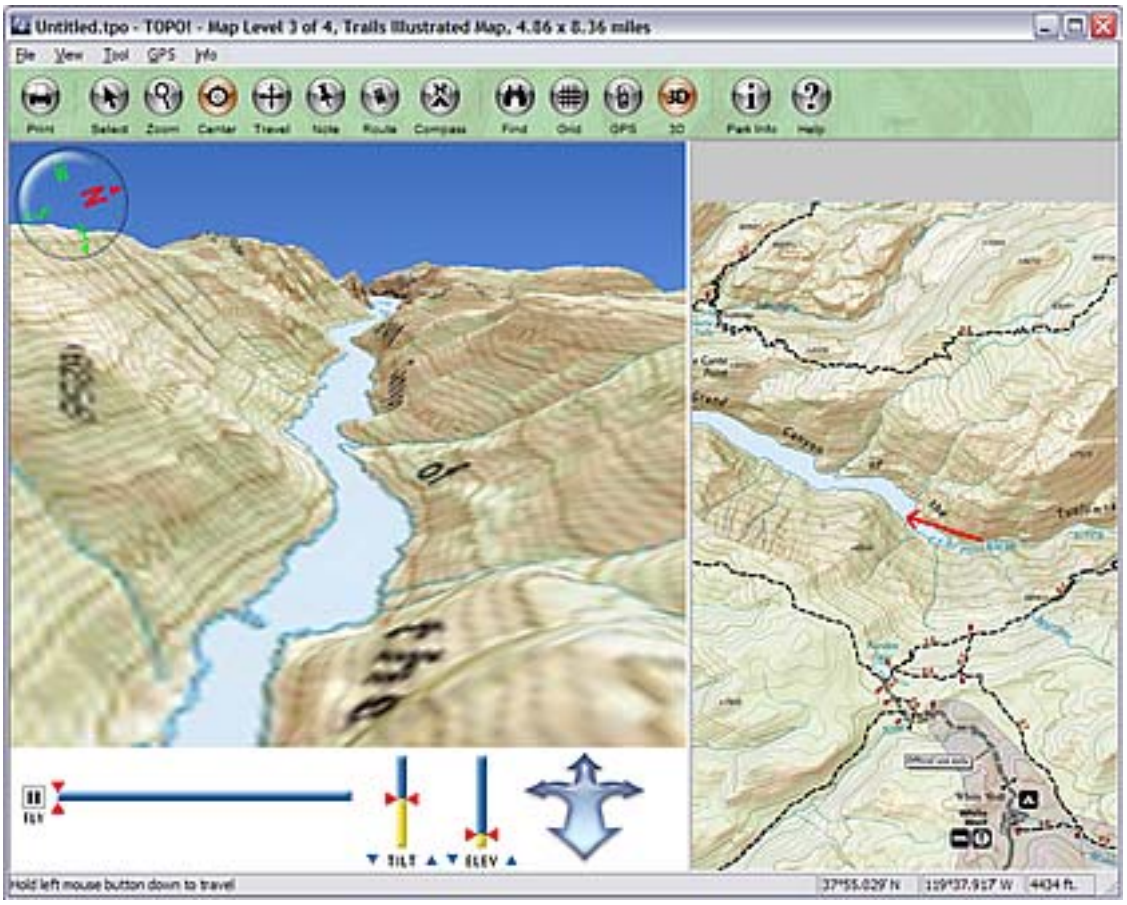
1. Use the Compass Tool to place an anchor point on the map, see Measuring Direction on page 29.

2. Choose **Coordinate Locator** from the **View** menu.

3. Enter the latitude and longitude or UTM value for the desired destination point. National Parks Explorer 3D displays the distance and direction from the anchor point to the new coordinate in the **From** field in the **Coordinate Locator** window.

Viewing Three Dimensional Maps

Topographical maps typically depict terrain in two dimensions, using topographical lines to represent elevation changes. In National Parks Explorer 3D, you can view routes and terrain in a three dimensions. This set of features are useful in that they allow you to get a sense of what the terrain looks like from different vantage points.


Untitled.tpo - TOPO! - Map Level 3 of 4, Trails Illustrated Map, 4.86 x 8.36 miles
File View Tool GPS Info
Print Select Zoom Center Travel Note Route Compass Find Grid GPS 3D Park Info Help
TILT
ELEV
Hold left mouse button down to travel
37°55.029' N
119°37.917' W
4434 ft.

The 3D View in National Parks Explorer 3D appears to the left of the two dimensional map.

Viewing a Map Area in Three Dimensions

To view an area on a map in three dimensions:

1. Center the map in the appropriate location (see page 20) and zoom in to the appropriate level (see page 18).

2. Under the View menu, click **3D Map View** or click the 3D button . The 3D view appears. Note the compass at the top of the view indicating directions. The view rotates from the center point on your map.

3. To set a specific vantage point for the 3D view, move the cursor over the 2D map (the cursor appears as a circle). Click the exact location you have in mind. National Parks Explorer 3D creates a 3D view from that vantage point.

4. To change the angle of the 3D vantage point, click and move the **Tilt** slider. To change the height of the 3D vantage point, click and move the **Elevation** slider.

Navigating in the Three Dimensional View

To navigate in the three dimensional view, use the **Left, right, up and down arrows** to move the viewpoint in the corresponding direction. You may need to click the mouse in the 3D map view first before using the arrow keys to navigate.

Viewing a Fly-Over of a Route in Three Dimensions

To view a virtual fly-over of a route in three dimensions:

1. Draw a route in National Parks Explorer 3D (see Drawing a Route on page 26).

2. Right click the route and click **3D Fly-Over**. The 3D map view opens, depicting a virtual fly-over of your route.

3. To change the angle of the 3D vantage point, click and move the **Tilt** slider. To change the height of the 3D vantage point, click and move the **Elevation** slider. To change the velocity of the fly-over, click and move the **Speed** slider

4. To start the fly-over again, click the **Fly** radio button.

Keeping National Parks Explorer 3D Up to Date

This section describes how you can use Live Map Update. This set of features allows you to easily keep National Parks Explorer 3D software up to date ensuring that you have the latest available software, features, improvements and mapping information.

Updating the Software

National Parks Explorer 3D can automatically check to see if there is an available update of the software. To do this:

1. Be sure that your computer is connected to the Internet.

2. Under the View menu, click **Preferences and Settings**. The Preferences dialog box appears.

3. Click **Live Update**.

4. Check the box named **Keep my software up-to-date**. Each time you launch this software, it will automatically connect to the National Geographic Map server and notify you if a more current version is available.

Creating and Using Routes

The Route Tool is essential for measuring distance, customizing maps, building elevation profiles and creating GPS routes.

Drawing a Route

1. From the Tool menu, choose **Route** or click the Route button .

2. Position the cursor over the map where you want the route to begin.

3. Left-click and release the mouse to begin drawing a new route. (The pencil cursor will change from horizontal to an upright position to indicate that you are in drawing mode.) The route automatically follows any existing trails on the map. To draw elsewhere on the map, hold down the Ctrl key while drawing (PC and Mac).

4. When your route is complete, left-click to stop drawing.

5. In the Properties dialog box, enter information about the route, such as name and route display settings.

For straight line segments:

1. Hold down the Shift key while drawing to start a straight segment. The pencil cursor icon will be replaced by a targeting cursor.

2. Position the targeting cursor where you would like to end the straight-line segment. (If you position the cursor at the edge of the screen, the map scrolls automatically).

3. Release the shift key to end the line segment.

4. Click your mouse button.

To correct a mistake while drawing, hold the right mouse button down and backtrack as far as necessary to erase.

Measuring and Displaying Distance

Once you left-click to finish drawing a route, National Parks Explorer 3D automatically calculates the route's distance.

Note

The distance calculated does not account for terrain and elevation changes. If you wish to determine the actual terrain distance, view the **elevation profile.**

Determining Distance at a Glance

National Parks Explorer 3D displays the route distance on the status bar at the bottom of your screen when you place the cursor over any part of your route.

Changing the Distance Units from Miles to Kilometers

You can toggle between miles and kilometers. For more information, see Appendix C: Preference Settings on page 54.

Extending or Shortening a Route

Routes can be edited or revised using the **Route Tool**.

1. Choose **Route** from the Tool menu or click the Route button .
2. Position the cursor at either end of the route you wish to edit.
3. When the cursor displays a "+" symbol, left click to begin editing.
4. To extend a route, continue drawing.
5. To shorten a route, hold the right mouse button while retracing back along the route to erase.
6. Left-click to finish editing.

Starting a Route on Top of Other Custom Objects

You can start a route on top of other routes, symbols, text labels or direction lines without selecting the custom object below. This can be useful if you wish to start a route from a specific location on the map where you have already placed a custom object.

1. Choose **Route** from the Tool menu or click the Route button .
2. Hold down the Ctrl key.
3. Move the cursor over the object and begin drawing your route.
4. Release the Ctrl key.

Measuring Direction

Use the Compass Tool to measure direction and distance between any two points. Direction is described using the 360° in a circle (0°= north, 90°=east, 180°= south, 270°=west).

True North and Magnetic North - National Parks Explorer 3D can display directions relative to True North, the direction that most topographic maps are oriented toward (straight up on the map), or relative to the magnetic north pole that a compass points toward. For more information, see Appendix C: Preference Settings on page 54.

Radial Mode and Waypoint Mode

The Compass Tool can be used in two different modes:

- **Radial Mode** is useful when you want to measure the direction from one location on the map to several other locations. The anchor point will remain fixed at point A when a direction line is created from point A to point B.
- **Waypoint Mode** is useful when you want to measure a series of directions along a zig zagging route (ex: from A to B, then from B to C, then from C to D, etc.). The anchor point will move to point B when a direction line is created from point A to point B.

For more information on setting these preferences, see Appendix C: Preference Settings on page 54.

Measuring and Displaying Direction

To measure direction from an anchor point to your cursor:

1. Choose **Compass** from the Tool menu or click the Compass button .
2. Position the cursor where you would like to place an anchor point
3. Left click to place an anchor point. Once you have placed an anchor point on the map, National Parks Explorer 3D displays the direction and distance from the anchor point to your cursor in the status bar. National Parks Explorer 3D updates the display as you move your cursor.

Tip

Once you place an anchor point, you can move to nearby locations with the traveling cursor at the edge of the map or to distant locations on the overview maps. You can also switch map levels by right clicking on the map (your anchor point remains fixed at its location).

To draw a direction line between two points:

1. Left click the Compass Tool button or choose **Compass** from the Tools menu.

2. Position the anchor cursor where you would like the direction line to start.

3. Left click to place the anchor point.

4. Left click again at the position where you would like the direction line to end. National Parks Explorer 3D draws a direction line between the two points.

After drawing a direction line, National Parks Explorer 3D displays the line distance and azimuth in a pop-up text box and on the status bar when you place the cursor over the direction line.

To display direction in a text label on the map, use the same method as displaying distance (see Measuring and Displaying Distance on page 27).

Tips

To toggle between true north and magnetic north, choose **Direction Reference** from a direction line's pop-up editor (see Appendix A: Pop-up Editors on page 52), or toggle the overall preference setting (see Appendix C **Preference Settings**). To build a profile or change the appearance of a direction line use, see Appendix A: Pop-up Editors on page 52.

Placing an Anchor Point on Top of Other Custom Objects

You can place an anchor point on top of other routes, symbols, text labels or direction lines without selecting the custom object below. This can be useful if you wish to set the anchor for a direction line on a specific location on the map where you have already placed a custom object.

1. Choose **Compass** from the Tool menu or click the Compass button .
2. Hold down the Ctrl key.
3. Move the cursor over the object and place the anchor for the direction line.
4. Release the Ctrl key.

Building and Understanding Elevation Profiles

National Parks Explorer 3D generates an elevation profile for any route you trace on the map. An elevation profile is a graphic representation of the vertical gain and loss along a route. Elevation profiles can show the following statistics for a route: total gain, total loss, net gain, and true overland distance. Elevation profiles can be printed and saved to disk for use in other applications.

Building Elevation Profiles

Once you have drawn a route, National Parks Explorer 3D displays the route's statistics in the profile window. Interactive features in the profile window allow you to identify where a point on the profile is located on the map.

To build a profile:

1. For a new route, draw a route using the **Route Tool**, (see Drawing a Route on page 26).

2. For an existing route, choose the route by placing your cursor over it. Right-click the mouse to access the route's pop-up editor.

National Parks Explorer 3D displays the profile in the dialog box.

Understanding the Profile and Profile Statistics

The elevation profile is a graph; it shows the vertical gain and loss along the course of the route on the map. The vertical axis shows elevation in feet or meters above sea level; its units run along the left edge of the profile. The horizontal axis shows distance from the start of the route in miles or kilometers; its units run along the bottom edge of the profile. Blue and green color bands indicate fixed units of elevation that vary from profile to profile depending on the amount of elevation change.

National Parks Explorer 3D displays the following statistics about the route below the profile:

- **Total gain**: Figure proceeded by a plus sign. The sum of all the uphill segments along the route.

- **Total loss**: Figure proceeded by a minus sign. The sum all the downhill segments along the route.

- **Net gain**: Figure proceeded by an equal sign. The difference in elevation between the end and the start of the route.

- **Terrain distance**: National Parks Explorer 3D displays this in the status bar when your cursor is over the profile window. It shows a distance from a route's start point to your cursor that includes the ups and downs along the route in addition to the horizontal distance. Because terrain distance includes this vertical change as well as the horizontal change, terrain distance more accurately reflects the true length of a route.

- **Vertical Exaggeration**: This is a number that reflects the ratio between the vertical scale (elevation) and the horizontal scale (distance) of a profile. National Parks Explorer 3D displays this statistic as a number followed by an X. This figure describes how much a profile has been stretched to fit the elevation profile window. For example: an exaggeration of 4X means that hills along the profile appear four times steeper than they actually are.

Tips

If a route's net gain is positive, the route ends at an elevation that is higher than the elevation where it began; if negative, the route ends lower than where it began. It is possible to determine the grade of a section of profile by selecting and viewing it in greater detail (see Identifying Points Along the Elevation Profile on the Map on page 33).

To change between feet and meters or miles and kilometers, see Appendix C: Preference Settings on page 54.

Identifying Points Along the Elevation Profile on the Map

Tip

Click on any point of the elevation profile graph to view the corresponding location on the map.

As you move the cursor over the profile, National Parks Explorer 3D displays horizontal and vertical guides to help identify the distance and elevation of a particular point along the profile.

To identify a location on the map that corresponds with a point on the profile, click on the profile at a point you wish to identify. National Parks Explorer 3D place two

yellow dots; one on the map and one on the profile. These yellow dots represent corresponding locations. Each time you click, National Parks Explorer 3D updates the yellow dots and display the distance from the start of the route to the yellow dot.

Resizing the Profile Window

When elevation profiles are built, they are scaled to fit in the profile window. To see the entire profile in greater detail, grab the horizontal splitter bar that separates the map and profile windows and drag it to resize it as you see fit.

Printing and Exporting Elevation Profiles

You can print elevation profiles with a map. Also you can copy profiles to the clipboard or save them to disk for use in other applications.

To print an elevation profile with a map:

1. View a profile of a route in the Notes and Routes Pane.
2. Select the Print Tool **.** Click the Print tab (right hand side of the screen).
3. Click **Print**.

National Parks Explorer 3D automatically prints the active profile with your map (see Printing and Exporting Maps on page 35).

Printing and Exporting Maps

Maps can be printed to include any custom symbols, text, routes, grids and GPS data you have added.

Obtaining Maps by Mail

At any time, you can purchase a large-format topographic map of the park you are viewing in National Parks Explorer 3D. Note that this feature requires an active Internet connection. To do this:

1. Run National Parks Explorer 3D and go to the park you are interested in.
2. From the **File** menu, click **Maps by Mail**.
3. Follow the instructions on your screen.

Printing Basics

To print a map on your desktop printer:

1. Center the map on the area you would like to print.
2. Choose **Print Map** from the **File** menu or click the Print button .
3. In the top right corner, choose a map magnification (e.g. **Reduce 75%**).
4. Click the **Print** button.

Using Page Setup Options: Printer Type, Paper Size, Orientation and Margins

Before clicking the Print button , choose **Page Setup…** from the **File** menu to set options for paper size and source, as well orientation and margins. These options include:

- To select a printer other than the current default printer, click **Printer…** in the lower right corner of the Page Setup screen. Left click on the arrow on the right side of the Printer pull-down bar to select a printer from the available options.

- Maps can be printed in either a **Portrait** or **Landscape** configuration by selecting the appropriate option on the Page Setup screen.

- **Margin** specifications are also displayed on the Page Setup screen. To change any margin, click on the current measurement to highlight it, then type in your new specifications.

Exporting Maps

Individual map selections can be exported to disk for use in other programs.

To export (save) an image of a map:

1. Click File > Print or Export Map… or click the Print button . The Print Preview dialog box appears.

2. Click and point near the corners of the map to adjust the area as appropriate.

3. Click the **Save** button.

4. Choose a location and name for the saved map image.

You can now open this image in other applications.

Note

Maps saved as graphics files are for export to other applications and cannot be opened again in National Parks Explorer 3D.

Suggestions for Maps Too Large to Print on a Page

There are many ways to get a large map in National Parks Explorer 3D to print using the smaller size of paper that your printer accepts. Here are different methods you can try:

- Zoom out and try printing the region from a smaller scale map. For example, if you are trying to print a large portion of a 1:24,000 scale map, see if printing the same region from a scale of 1:63,360 will give enough detail for your needs.

- In the Print Preview view, choose a map magnification (e.g. **Reduce 75%**) (see page 35).

Customizing the Maps with Text, Symbols and Routes

National Parks Explorer 3D makes it easy to create custom maps. Use the **Note** and **Route** tools to annotate the maps. The pop-up editor lets you customize an object's color, font, size, width, etc. All information you add can be easily saved and deleted. Information you add to the maps is included on National Parks Explorer 3D printouts and exports.

Adding Text to the Maps

Use the Note tool to add text labels to the map. After creating a text label, you can edit how the text appears using the pop-up editor. Text labels can be easily moved and deleted.

To use the Note tool:

1. Choose **Note** from the Tool Menu or click the Note button.
2. Position the cursor and left click on the map.
3. Enter text in the note dialog box and click **OK**.
4. National Parks Explorer 3D places the text label at your cursor's location.

To move a note:

1. Choose a note by positioning your cursor over it.
2. Hold down the left mouse button and drag.

To change the appearance of a note:

1. Choose a text label by positioning your cursor over it.
2. Click the right mouse button to access the pop-up editor, (see Appendix A: Pop-up Editors on page 52).
3. To edit a note label, change the text.
4. To change the note symbol, click on the symbol icon.

5. To change the size or font of the text, choose **Modify Style**.

6. To change the color of the text, choose **Modify Style**.

7. To toggle the backdrop on or off, use the **Backdrop** checkbox.

To copy and delete notes, see Appendix B: Modifying and Deleting Objects on page 53.

Changing the Color and Style of Routes

The color or style of a route cannot be changed in the current version of this software.

- To add routes to the map, see Drawing a Route on page 26.
- To edit routes, see Extending or Shortening a Route on page 27.
- To copy and delete routes, see Appendix B: Modifying and Deleting Objects on page 53.

Placing Text and Symbols on Top of Other Custom Objects

You can place notes on top of other routes, symbols, text labels or direction lines without selecting the custom object below. This can be useful if you wish to place a text box or symbol in a specific location on the map where you have already placed a custom object.

1. Choose **Note** from the Tool Menu or click the Note button .

2. Hold down the Ctrl key.

3. Move the cursor over the object and place the Symbol or Text box.

4. Release the Ctrl key.

Customizing the Maps with Grids

National Parks Explorer 3D provides a powerful set of navigational tools that can help you plan a trip on-screen and customize printed maps to keep you oriented in the backcountry. Drawing your intended route on the map (see Drawing a Route on page 26) and building an elevation profile of it (see Building Elevation Profiles on page 32) will give you a good sense of how difficult the trip will be and how much time you should budget for it.

Note

If you use a GPS receiver, you'll benefit from reading both this chapter and the next. Even if you don't have a cable to link your GPS to your computer, including waypoints and grids on your print outs will allow you to use the coordinates reported by the GPS receiver to pinpoint your position on the map.

Determining Location and Reading Coordinates

Coordinates are the numbers (and/or letters) that precisely describe positions on the Earth. As you move the cursor over the map window, National Parks Explorer 3D displays the cursor's coordinates in the status bar at the lower right corner of your screen. National Parks Explorer 3D lets you display these coordinates in either of two coordinate systems: latitude / longitude or UTM.

Latitude / Longitude Coordinate System

The latitude / longitude system is the most common coordinate system in use today. Latitude describes how far north or south of the equator a location is; lines of latitude, circles that are parallel to the equator and to one another, are also called *parallels*. Longitude describes how far east or west of the Prime Meridian (Greenwich, England) a location is; lines of longitude, half-circles that extend from the north pole to the south pole, are also called *meridians*.

A position in the latitude / longitude system is described as being the intersection of a line of latitude and a line of longitude. Latitudes go from 0° at the equator to 90°N at the North Pole and from 0° at the equator to 90°S at the South Pole. Longitudes start at 0° at the Prime Meridian and run west to 180°W and east to 180°E (where they meet). The latitude is usually listed first, then the longitude, as in: 37.76417°N,

122.41194°W. This example was given in decimal degrees, but the same position could be given in degrees and decimal minutes as: 37°45.850'N, 122°24.717'W, or in degrees, minutes, seconds as: 37°45'51"N, 122°24'43"W. *When using* National Parks Explorer 3D *with a GPS receiver, be sure to set both of them to display in the same format*.

UTM Coordinate System

UTM, or Universal Transverse Mercator, is another commonly used coordinate system, especially for navigating on land. Instead of referencing imaginary grid lines on the globe, UTM projects sections of the globe onto a flat surface. Each of the 60 sections, called *zones*, cover 6° of longitude. UTM zones start with zone number 1 which lies between longitude 180° (the International Date Line) and longitude 174°W and run east to zone 60.

A UTM position is described by three elements: the *zone* it is in, an *easting* value, and a *northing* value.

Eastings and northings measure how far into a zone a position is in meters. Eastings are an east/west measurement that corresponds to longitude. Northings are a north/south measurement that corresponds to latitude. By comparing two UTM positions that are within the same zone, you can determine how far apart they are on land (the difference in their eastings tells you how far east in meters one position is from the other; the difference in their northings tells you how far north in meters one position is from the other).

Reading Coordinates in National Parks Explorer 3D

Look in the lower right corner of the status bar to find coordinate information. By default, coordinates are displayed in degrees, minutes, seconds using the latitude/ longitude coordinate system. The default datum is the North American Datum of 1983 (NAD83). This datum is essentially equivalent to WGS84, used by most GPS receivers. Unless you have a specific need to change the datum, you should leave it on its default setting. Elevation appears to the right of the coordinates and is given in feet or meters above mean sea level in the North American Vertical Datum of 1929.

Using the Coordinate Locator

Please see Searching for Locations on 22.

Using Grids

Grid lines on a printed map allow you to easily identify your position when you obtain your coordinates from a GPS receiver. National Parks Explorer 3D can provide either latitude/longitude or UTM coordinate reference data, scaled to your specifications. Once activated, your grid lines will automatically appear on printed maps.

To add grid lines to any map, select **Grid...** from the **View** menu. Grid lines appear on the map.

Note

To change map datum or coordinate display settings, click **Preferences and Settings**, click **Units**, then click **Coordinates**.

To identify your position on a printed map using the grid lines:

1. Use a GPS receiver to determine the coordinates of your current position.

2. Find the grid lines for the latitude and longitude (or UTM easting and northing) that most closely match the coordinates you found in step 1, and follow those two lines to where they meet. Your position on the map is near the intersection of the two lines.

3. For more accuracy, determine whether the coordinates of your position are above or below the latitude (or northing) grid line, and left or right of the longitude (or easting) grid line. This allows you to identify the grid "box" your position lies within. Estimate your position within the box by comparing how far the four bounding grid lines are from the coordinates obtained in step 1.

Using National Parks Explorer 3D with a GPS Receiver

National Parks Explorer 3D is a great complement to GPS receivers. This chapter begins with a brief introduction to GPS and some of the common terminology associated with it. The sections following that explain how to create GPS waypoints and routes on National Parks Explorer 3D's maps, connect your PC to your GPS receiver, and upload (export) that information to the GPS. You'll also learn how to download (import) information you've collected with your GPS receiver and see it on TOPO!'s maps. If you have a laptop PC, you might want to try connecting it to your GPS to track your position while someone else is driving (see page Connecting to a GPS Receiver on page 44). The final sections explain how to manage GPS data in National Parks Explorer 3D, how that data is stored on the hard drive, and how to share that data with other software applications.

A Quick-Start Guide to GPS

Global Positioning System or GPS consists of a network of 24 orbiting satellites that transmit precisely timed radio signals, ground stations that control those satellites, and handheld GPS receivers that use the radio signals to calculate your position on the earth. Most handheld receivers on the market today will "lock on" to the signals needed from at least 3 satellites and display the coordinates of your position within a minute of turning it on outdoors. If you are moving, the GPS receiver will also report your heading and speed. If you have entered waypoints into its memory, the receiver can report how far away those locations are and in what direction. Properly used, a GPS receiver can help guide you to your destinations without getting lost.

To navigate to places you have never been before with your GPS, you need to create waypoints for those places in advance, and to do this, you need the coordinates (latitudes and longitudes) of those places.

National Parks Explorer 3D is the easiest way to plan your GPS adventure -- just click on the map and National Parks Explorer 3D displays the coordinates for you. TOPO, a special version of National Parks Explorer 3D designed specifically for GPS users, makes the process even easier: after clicking down waypoints on the map, you can link your GPS to your PC with a cable and transfer the waypoints automatically.

Note

To learn more about GPS visit http://www.topo.com/ or contact National Geographic. To learn how to operate a particular GPS receiver, please refer to the manual that came with it.

Coordinates: Coordinates are the numbers (and/or letters) that precisely describe positions on the Earth. For more information about coordinates and coordinate systems, see Determining Location and Reading Coordinates on page 39.

Waypoints: When a location's coordinates are assigned a name and stored in National Parks Explorer 3D or in a GPS receiver, it becomes a "waypoint." As Michael Ferguson, author of *GPS: Land Navigatio*n, points out, a waypoint "is not a physical location on the ground, but rather the coordinates that approximate that location." The actual locations of waypoints created in National Parks Explorer 3D are usually within 25 meters of where they appear to be on the map. Most GPS receivers today, however, are only accurate to about 100 meters. When you arrive at your destination, your GPS might still report that you have up to 0.05 miles to go.

Note

Some Magellan receivers use the term "landmark" in the place of "waypoint."

Routes and Legs: Most handheld GPS receivers also support "routes." A route is a series of waypoints that have been linked in a certain order into a sequence of "legs." A leg is a straight segment going from one of the waypoints of the route to the next. (A route consisting of three legs will therefore have four waypoints.) Using routes makes it easier to navigate with your GPS when you intend to pass through several waypoints, because your GPS will automatically switch to the next leg when you arrive at the previous leg's destination waypoint. To learn how to create GPS routes in National Parks Explorer 3D, see Creating GPS Routes on page 43.

Tracks: Another common feature of handheld GPS receivers is the ability to automatically keep track of where you've been while using the GPS. The coordinates of the last thousand or more positions are stored in a "track log" in the receiver's memory, and are often displayed on the GPS screen as a series of bread crumb dots indicating the course you've taken. Most receivers that support tracks let you set the time and/or distance interval between successive track points. If you're using the GPS in a car, you might want to record your position every 30 seconds; on foot, you might only want a point every two minutes. To learn how to import your GPS track log into National Parks Explorer 3D to see where you've been on the map, see Downloading from a GPS Receiver (Import Wizard) on page 47.

Creating GPS Routes

A GPS route is a series of waypoints that are arranged in the order that you intend to travel. Each route you create in National Parks Explorer 3D appears as a separate folder in the **Waypoint List** (see below). This section will describe two different methods for creating routes in TOPO.

To create a GPS route from a freehand route drawn with the Route Tool:

1. Use the **Route Tool** to draw a route (see Drawing a Route on page 26.)

2. Once your route is complete, position the cursor over the route and right-click the mouse to access Route Properties window.

3. Select the **GPS Details** tab on the Route Properties window.

4. Enter the following information:
   - **Enter a number of waypoints…**: Enter the number of waypoints you want to be placed on this route.
   - **Choose how you would like** National Parks Explorer 3D **to distribute…**: Choose an appropriate method of distributing these waypoints.
   - **Prefix**: Enter a **prefix for new waypoints** on this route. This prefix, plus a number for each sequential waypoint, will serve as the name for your GPS waypoints.

5. Click **Finish** to create your GPS route.

Note

Routes created with the **Route Wizard** will consist of a set of evenly spaced waypoints. You can edit such a route by opening the Route Properties window and making changes on the **GPS Details** tab.

To create a GPS route by clicking down waypoints on the map:

1. Choose **Compass** from the Tool menu or click the Compass button .

2. Position your cursor over the start of your intended route and left click to place the first waypoint..

3. Move your cursor to the next location that you'd like to place a waypoint and left click. National Parks Explorer 3D displays this waypoint with a red line connecting it to the previous waypoint in your route.

4. Continue to place as many waypoints along your route as you want, up to the maximum allowed by your GPS receiver.

Note

If a route is active (red) when you create new waypoints on the map, National Parks Explorer 3D automatically adds those waypoints to the end of that active route.

Connecting to a GPS Receiver

Connecting National Parks Explorer 3D directly to your GPS receiver is easy. A direct connection allows you to automatically send waypoints and routes you have created in National Parks Explorer 3D to your receiver so that you can later navigate to those places using the GPS. A direct connection also allows you to download waypoints, routes, and tracks of places you have been from your receiver directly onto National Parks Explorer 3D's maps. If you have a laptop computer, you can also use the direct connection to see your current location continuously updated on a moving map display.

Note

Connecting requires a GPS receiver that supports PC upload/download and a compatible PC cable, available from GPS retailers or manufacturers -- contact National Geographic for help locating a dealer near you.

Setting up National Parks Explorer 3D and Your GPS Receiver for Connecting

1. Attach one end of your PC cable to your GPS receiver and the other to an available communications port on your PC. See your GPS receiver manual and your PC manual for more information about cable connections and communication ports.

2. Power on your GPS receiver.

3. If you are using a Garmin GPS, check that your receiver's interface mode is set to "Garmin" or "GRMN/GRMN." (See your Garmin manual for more information about setting the interface mode.)

4. In National Parks Explorer 3D, choose **Change GPS Settings...** from the GPS menu. The GPS Receiver Settings dialog box appears.

5. Click Receiver. Choose a **Make** and a **Model**. In most cases, this information will suffice.

   If you do not see your specific model in the pull down menu, choose **None of the Above**. If you do not see your manufacturer in the pull down menu, you can select one of the **NMEA** options and use National Parks Explorer 3D with a laptop for live tracking; visit our web site at http://www.topo.com/ to see if a new version is available that supports upload and download for your receiver.

6. (Optional) Specify the maximum numbers for waypoints, routes, track routes, etc. These setting affect the output of data from the GPS device to National Parks Explorer 3D.

7. If you have changed the baud rate (i.e. transfer speed) in your GPS receiver, verify that the **Baud Rate** specified on the Preferences dialog box matches your GPS receiver's baud rate. (See your GPS receiver manual for more information about setting the baud rate.)

8. Verify that the **Port** specified on the Preferences dialog box screen is the same port you connected the cable to in step 1. (If you aren't sure, try each of the options in the pull down menu, starting with **COM1**, and clicking **Test GPS Connection** each time.)

9. Click **Test GPS Connection**. A properly connected receiver will send a message that includes the text "OK". You are now connected and ready to send and receive data. (If you do not receive this message, try checking your cable

connections, restarting your receiver, and repeating the above instructions. If you continue to have trouble, visit our web site at http://www.topo.com/ to see if a recent solution has been posted to the support page.)

10. National Parks Explorer 3D supports most popular handheld GPS receivers. If you do not see your receiver manufacturer or model in the pull down menus on the Preferences dialog box, visit http://www.topo.com/ for a complete list of supported receivers and downloadable upgrades for new models. Also visit our web site for new "Connecting to GPS" updates and free upgrades.

Note

National Parks Explorer 3D requires a good cable connection between your GPS receiver and the communications port on your PC. Make sure the PC cable is correctly attached to both your receiver and the PC.

Uploading to a GPS Receiver (Export Wizard)

Exporting data from National Parks Explorer 3D to your GPS receiver is a great way to help you get where you want to go. When you export waypoints and routes created in National Parks Explorer 3D, they become available to you in your GPS receiver. When you're out using your GPS, you'll be able to select any of those waypoints or routes, and your GPS will help guide you to them.

Creating waypoints and routes in National Parks Explorer 3D is much easier than creating them manually in your receiver. Just click on the map to place waypoints, and use the keyboard to give those waypoints names. Uploading data directly can save hours of work. Waypoints and routes will appear in your receiver as you named them in National Parks Explorer 3D, and if your receiver supports waypoint messages, they will appear as well.

National Parks Explorer 3D allows you to store all your GPS data on your PC. Just load the data you need for a particular trip into your receiver, and your GPS will have a list of waypoints that's easy to manage and keep track of when you're using it. When you return, download all the GPS data and save it in a .tpo file. This way you can delete old waypoints and routes from your receiver, but still have a backup on your PC hard drive if you ever want to upload them again to the GPS.

To upload to a GPS receiver:

1. Connect your GPS to your computer (see Connecting to a GPS Receiver on page 44).

2. Select **Export to GPS ...** from the **GPS** menu. The Wizard screen will appear.

3. Choose the type of GPS information you wish to export.

4. Before you begin exporting to your GPS, you may wish to test the connection with your PC by clicking **Test GPS Connection**.

5. Click **Finish**. Depending on what you requested in step 3, you should see waypoints and/or routes now stored in your GPS receiver.

Note

In order to import directly from your GPS receiver, you must have the necessary cable and your receiver must support PC upload / download. If you are having trouble, see Connecting to a GPS Receiver on page 44.

Downloading from a GPS Receiver (Import Wizard)

Importing data from your GPS receiver is an excellent way to see where you've been. When you import waypoints, routes, and/or tracks into National Parks Explorer 3D, they automatically appear on the maps. Importing data is also a good way to manage and store GPS data gathered in the field. Once you've downloaded waypoints into National Parks Explorer 3D and saved them on your hard drive, you can clear them from your GPS receiver so you won't have to scroll through them all when using your GPS on your next trip. If you need to access the waypoints in the future, you can always open the file in National Parks Explorer 3D and upload them back to your receiver.

To download from a GPS receiver:

1. Connect your GPS to your computer (see Connecting to a GPS Receiver on page 44).

2. Select **Import from GPS** from the **GPS** menu. The Wizard screen appears.

3. Choose the type of GPS information you wish to import.

4. Before you begin importing from your GPS, you may wish to test the connection with your PC by clicking **Test GPS Connection**.

5. Click **Finish**. Depending on what you requested in step 3, you should see waypoints, routes, and/or tracks appear on the maps and in National Parks Explorer 3D.

Note

In order to import directly from your GPS receiver, you must have the necessary cable and your receiver must support PC upload / download. If you are having trouble, see Connecting to a GPS Receiver on page 44.

Tracking your Position in Real Time

Portable computer users can track their location in real time as they travel by having their GPS receiver send location updates to TOPO at regular intervals. You might want to try this when searching for a trailhead or navigating on dirt roads. Please be careful -- don't click and drive.

Displaying or marking your current position a single time:

1. Connect your GPS receiver to your computer (see Connecting to a GPS Receiver on page 44).

2. Verify that your GPS receiver is locked on to at least 3 satellites and has a position fix.

3. Select **Show Current GPS Position** from the **GPS** menu to center the map and cross hairs on your position.

4. Or, select **Mark Current GPS Position** from the **GPS** menu to record the position as a waypoint on the map.

Tracking your position continuously as you travel:

1. Connect your GPS receiver to your computer (see Connecting to a GPS Receiver on page 44).

2. Verify that your GPS receiver is locked on to at least three satellites and has a position fix.

3. Select **Setup Automatic Tracking...** from the GPS menu. There are three options for how you want your track displayed and recorded. You can choose any or all of them:
   - Checking the **Show Position** checkbox will center the map on your location as often as you choose (default: every 5 seconds).
   - Checking the **Mark Position** checkbox will create successively numbered waypoints on the map at your location as often as you choose (default: every 30 seconds). Also check the **Don't mark if position is within** 500 **feet of previous waypoint** checkbox if you want to avoid creating lots of waypoints in the same place when you are stationary.
   - Checking the **Trace out a continuous freehand route** checkbox will connect your movements on the map with a single continuous route (in the current default color and style.

4. Before you begin, you may wish to test the connection with your PC by clicking **Test GPS Connection**.

5. Click **Start Tracking**.

6. To stop tracking, toggle the **GPS Options** button on the toolbar, or deselect **Setup Automatic Tracking…** from the **GPS** menu.

Note

If you are having trouble, make sure that your receiver is tracking enough satellites and has a valid position fix. Also see Connecting to a GPS Receiver on page 44.

Saving GPS Data

National Parks Explorer 3D's .tpo files allow you to save and organize different sets of custom data. These files are the perfect place to store waypoints and routes that you might want to use at a later date. They allow you to clear your GPS receiver's memory and have only the waypoints and routes loaded for your current trip. If you want to share GPS data with other National Parks Explorer 3D users, save a .tpo file to a CD-R or attach it to an e-mail.

Saving GPS waypoints and/or GPS routes:

From the File menu, select **Save Map** or **Save Map As...** This saves all your current waypoints and routes in a .tpo file for later reference. For example, you could maintain individual .tpo files to keep track of GPS waypoints and routes for each of your favorite hiking trails. When you want to review a particular trail or load it back into your GPS, select **Open Map…** from the File menu.

Merging .tpo files:

From the **File** menu, select **Merge tpo...** This allows you to combine the contents of one or more .tpo files into one larger file. For example, you may wish to merge all your individual .tpo files with GPS information on biking trails to create a master file containing route and waypoint information for all of your favorite rides.

Tip

After merging, select **Save Map As…** from the File menu if you wish to preserve the original contents of the .tpo file you just had open.

Creating New .tpo files:

To create a new .tpo file from the currently displayed park, from the File menu, select **New Map (for this park)**. To create a new .tpo file from another park, from the File menu, select **New Map (for a different park)**.

If you have created many waypoints or routes and wish to start placing new information on a clean slate, open a new .tpo file to wipe clean any active waypoint and route data. Be sure to save any such data first if you don't want to lose it.

Importing / Exporting GPS Geocache Information

You can save National Parks Explorer 3D information as a .gpx geocache file. GPX (GPS eXchange) files allow you to transfer GPS data between software applications. It describes waypoints, tracks, and routes.

If you wish to share GPS waypoint data with other National Parks Explorer 3D users, it is more convenient to save your data in a .tpo file that can be e-mailed or copied to disk (see Saving GPS Data on page 49).

Exporting GPS information from National Parks Explorer 3D to a .gpx geocache file:

1. From the **File** menu, click **Export GPX Geocache**.
2. Specify a name and location for this file.
3. Click **Save**.

Importing GPS information from a .gpx geocache file to National Parks Explorer 3D:

1. From the **File** menu, click **Import GPX Geocache**.
2. Choose this file.
3. Click **Open**.

Linking Notes to Maps

Use the notes tool to annotate the maps. When you place a note on the map, the note is displayed in the notes pane and as an icon the map. A single note may contain text, photo, and location information.

Adding Notes to the Map

1. Choose **Notes** from the Tool menu or click the Notes tool .
2. Position the cursor and click on the map. The Note Properties window appears.
3. Enter a map label, text note, a URL link, and/or attach a digital photo from this editor window.

Editing a Note

To edit a note, right click the note icon on the map or in the Note and Route List.

Opening and Closing the Notes View

To close or reopen the Notes view, choose **Note and Route List** from the **View** menu.

Appendix A: Pop-up Editors

Any custom information you add to a map in National Parks Explorer 3D - routes, direction lines, and notes - can be thought of as objects. All objects contain pop-up editors that provide options.

To access a pop-up editor:

1. Select an object by placing your cursor over it. The cursor changes to a hand symbol.

2. Click the right mouse button and the editor will appear.

Appendix B: Modifying and Deleting Objects

Most objects you add to a map in National Parks Explorer 3D can be displayed on all map levels or deleted entirely.

Deleting Objects

Any objects you add to a National Parks Explorer 3D map can be deleted by selecting **Delete** from the pop-up editor.

To delete an object using the option menu:

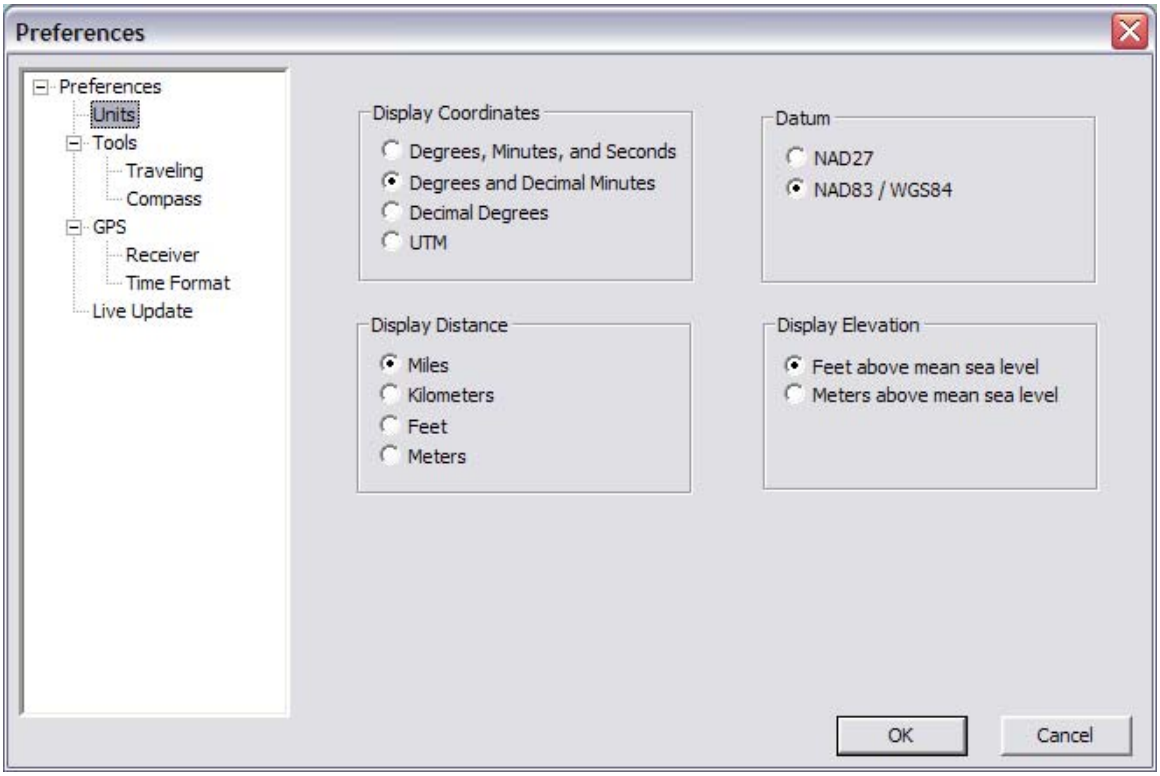
1. Choose the object you wish to delete by positioning your cursor over it.
2. Right click on the object and select **Delete** from the pop-up editor.

Reminder

Deleted objects are permanently deleted. Save multiple versions of a .tpo file on your hard drive if you want to be able to go back to an earlier version later.

Appendix C: Preference Settings

The **Preference** dialog box lets you customize tool settings, display options, and units of measure. To display this dialog box, from the View menu, click **Preferences and Settings**.



Preferences dialog box

Checkmarks next to items indicate options that are currently selected. Choose an unchecked item to select it instead.

Units

This group of settings includes three sections: Coordinates, Distance and Elevation

Coordinates

These settings allow you choose how coordinates are displayed and what map datum the coordinates are referenced to. For more information about these settings, please see Determining Location and Reading Coordinates on page 39:

- **Degrees, Minutes, Seconds**: Displays degrees followed by minutes and seconds
- **Degrees and Decimal Minutes**: Displays degrees and decimal minutes
- **Decimal Degrees**: Displays decimal degrees
- **UTM**: Displays Universal Transverse Mercator coordinates

Distance

This setting allows you choose how distance is displayed and measured. Distance can be displayed in miles, kilometers, feet or meters.

Elevation

This setting allows you choose how elevation is displayed and measured. Elevation can be displayed in feet or meters above sea level.

Tools

These settings allow you choose options for certain tools in National Parks Explorer 3D.

Traveling

Choose the appropriate speed at which you scroll when you use the Traveling Tool in National Parks Explorer 3D This setting only affect maps that are already in memory and cannot change how fast maps load from your CD-ROM drive. Change this setting if National Parks Explorer 3D is scrolling the maps too quickly or too slowly.

Compass

- **Coordinate Display**: For a description of this setting, please see page 55.

- **Coordinates Relative To**: Choose an appropriate reference point for coordinates. Allows you to customize how direction is displayed and how the compass tool works. You can toggle between the following True North (the direction that most topographic maps are oriented toward (straight up on the map) or Magnetic North: (the direction most compasses point toward).

- **Bearing Display**: Choose **Full Circle** to see your direction relative to all 360 degrees. Choose **Quadrant** to see your direction relative 90 degree quadrants that correspond north, south, east or west.

- **Compass Tool Mode**:
  - **Radial Mode**: The anchor point remains fixed at point A when a direction line is created from point A to point B. This is useful when you want to measure direction from one location on the map to several other locations.
  - **Waypoint Mod**e: The anchor point moves to point B when a direction line is created from point A to point B. This is useful when you want to measure a series of directions along a route.

GPS

These settings pertain to GPS receivers, data and connections. For more information, please see Connecting to a GPS Receiver on page 44.

Live Updates

For information about these options, please see Updating National Parks Explorer 3D on page 25.

Appendix D: Tips, Tricks & Frequently Asked Questions

What about updates?

To update your maps and National Parks Explorer 3D, see Updating National Parks Explorer 3D on page 25.

As new paper maps and data become available, National Geographic will provide upgrades. Be sure to return the product registration card included with this product. It will insure that you are notified as upgrades become available. Upgrades will be available on CD-ROM and downloadable from the Internet.

Visit http://www.nationalgeographic.com/topo for update information.

Why won't National Parks Explorer 3D work with my printer?

Your printer must be compatible with supported operating systems and support printing of grayscale or color graphics to work with National Parks Explorer 3D.

How can I reverse the direction of an elevation profile?

National Parks Explorer 3D builds elevation profiles from the start point of a route to the end point. You can reverse the direction that a profile builds by adding a small segment of route to the start point and then rebuilding the profile, see Creating and Using Routes on page 26.

What if the map I want to print is larger than a page?

There are several ways to print a large region of map from National Parks Explorer 3D. See Suggestions for Maps Too Large to Print on a Page on page 36.

How can I find everything within a one mile radius of a central point?

Use the **Compass** Tool to place an anchor at the central point. From the Preferences dialog box, be sure that the Compass Tool is set to Radial Mode (see page 55). As you move the cursor, the distance from the anchor point to the cursor is displayed in the left corner of the status bar. When the cursor is exactly one mile from the anchor point, click to draw a direction line. Continue this process for at least eight different points spread in a circle. Use the **Route** Tool's straight line mode to connect the ends of the directions line you have placed (see page 26). You may then delete the direction lines and what remains should be polygon roughly one mile in diameter.

How can I determine if a location (such as a summit) is visible from another location (such as a trail intersection)?

Draw a direction line using the Compass Tool from one of the locations on the map to the other, see Measuring Direction on page 29. Then build an elevation profile from the pop-up editor of the direction line (see Building Elevation Profiles on page 32). Hold a straight edge (such as a ruler or piece of paper) up against the monitor or printed profile so that its edge passes through the start and end points of the profile. If any land comes between the two locations out in the field, you should see a portion of the elevation profile sticking up above the straight edge as well.

Note

There may still be trees, buildings, or other obstructions between the two locations that are not accounted for by the elevation data corresponding to the ground.

How can I load maps onto the hard drive of a laptop computer?

When you run the National Parks Explorer 3D Installer, a “TPO_DATA” folder is created on your hard drive. You should find this folder in the same directory as the National Parks Explorer 3D application (probably in “C:\TOPO!\”). Any folders that you copy from the CD-ROM data folder into the “TPO_DATA” folder will be accessible by National Parks Explorer 3D. Each of the folders you copy must include all of its contents to work properly. You do not need to copy all of the folders to your hard drive. National Parks Explorer 3D will read any folders you do not copy from the CD-ROM.

If you have enough space on your hard drive for all of the maps on the CD-ROM, you can copy the entire data folder from the CD-ROM directly onto your hard drive (usually "C:\").

How can I get my GPS receiver to work with National Parks Explorer 3D?

If you are having trouble with a GPS connection or can't upload or download GPS data, see Connecting to a GPS Receiver on page 44. If you still have trouble, visit our support page at http://www.nationalgeographic.com/topo for information about particular brands and models of GPS receivers.

How can I get more information about National Parks Explorer 3D?

Contact National Geographic Maps or visit http://www.nationalgeographic.com/topo.

If you encounter system errors or are having problems using National Parks Explorer 3D that are not discussed in this document or on the above web site, you can contact National Geographic for technical assistance by email at topo@ngs.org or by telephone at 800-962-1643.